

IN THE CLAIMS:

Please amend Claim 10, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1. (previously presented) A wireless communication system comprising first and second wireless communication devices, wherein

said first wireless communication device comprises:

a detection unit adapted to detect a plurality of beacons at a plurality of frequencies;

a connection unit adapted to connect to a network identified by network identification information included in a beacon detected by said detection unit to search for a wireless communication device having a predetermined data processing function specified by an operator;

a first transmission unit adapted to transmit a search request signal, to search for the wireless communication device having the predetermined data processing function specified by the operator, to a wireless device on the network connected to by said connection unit

a determination unit adapted to determine whether the wireless communication device on the network connected to by said connection unit has the predetermined data processing function specified by the operator on the basis of a response signal that the wireless communication device on the network connected to by said connection unit has transmitted in response to the search request signal transmitted by said first transmission unit;

a display unit adapted to selectably display information associated with the wireless communication device determined by said determination unit to have the predetermined

data processing function specified by the operator so as to determine a wireless communication partner; and

a control unit adapted to, when the operator selects the information displayed by said display unit, while said detection unit performs a detection process to detect the beacon, terminate the detection process of said detection unit and execute connection processing with a wireless communication device specified by the selected information, and

said second wireless communication device comprises:

a second transmission unit adapted to transmit a signal including self identification information as the response signal, when search request information is detected in a wireless reception waiting state at a predetermined frequency.

2. (previously presented) A wireless communication device comprising:

a detection unit adapted to detect a plurality of beacons at a plurality of frequencies;

a connection unit adapted to connect to a network identified by network identification information included in a beacon detected by said detection unit to search for a wireless communication device having a predetermined data processing function specified by an operator;

a transmission unit adapted to transmit a search request signal, to search for the wireless communication device having the predetermined data processing function specified by the operator, to a wireless communication device on the network connected to by said connection unit

a determination unit adapted to determine whether the wireless communication device on the network connected to by said connection unit has the predetermined data processing function based on a response signal that the wireless communication device on the network connected to by said connection unit has transmitted in response to the search request signal transmitted by said transmission unit;

a display unit adapted to selectably display information associated with the wireless communication unit determined by said determination unit to have the predetermined data processing function specified by the operator so as to enable identification of a wireless communication partner; and

a control unit adapted to, when the operator selects the information displayed by said display unit, while said detection unit is performing a detection process to detect the beacon, terminate the detection process of said detection unit, and execute connection processing with a wireless communication device specified by the selected information.

3. (previously presented) The device according to claim 2, wherein said determination unit stores in a memory identification information of a wireless communication device on a partner side included in a response signal to the search request signal upon reception of the response signal, and

said display unit selectably displays the identification information stored in the memory.

4. (previously presented) The device according to claim 2, wherein each of the wireless communication device and the wireless communication partner comprises one of an

image sensing device, a device for executing a print process of a sensed image, and a storage device for executing a storage process of a sensed image.

5. (canceled)

6. (previously presented) The device according to claim 2, wherein, when no signal is received in response to the search request signal within a predetermined period of time, an error display is made.

7. (previously presented) The device according to claim 2, further comprising:
a second determination unit adapted to determine if the beacon detected by said detection unit is a beacon in an adhoc communication mode or a beacon in an infrastructure communication mode, and,

when said second determination unit determines that the detected beacon is the beacon in the adhoc communication mode, said transmission unit transmits the search request signal toward a wireless communication processing device as a generation source of the detected beacon, and,

when said second determination unit determines that the detected beacon is the beacon in the infrastructure mode, said transmission unit transmits the search request signal toward an access point.

8. (previously presented) The device according to claim 2, further comprising registration unit adapted to register, in a memory, information associated with a connection to the

partner wireless communication device, to which a wireless communication has been established.

9. (previously presented) The device according to claim 8, further comprising a mode for executing a process for establishing a wireless communication on the basis of the information registered by said registration unit.

10. (currently amended) A wireless communication device that is configured to switch between a history search mode and a new search mode, and executes a communication process in each mode, wherein, in the history search mode, the wireless communication device communicates with a partner wireless communication device that had been communicated with previously, and wherein, in the new search mode, the wireless communication device communicates with a newly searched for partner wireless communication device, comprising:

a storage unit adapted to store device identification information and network identification information of a partner to which the wireless communication device has been connected previously;

an instruction unit adapted to instruct one of the history search mode and the new search mode;

a beacon detection unit that operates in the new search mode and that detects a beacon;

a search unit adapted to, in the ~~history~~ new search mode, compare network identification information included in the detected beacon with the network identification information stored in said storage unit, cause said detection unit to detect another beacon, if there

is a match in the compared network identification information, and search for a partner wireless communication device to communicate with based on new network identification information, if the new network identification information is detected;

a first display unit adapted to, in the new search mode, selectably display device identification information of a wireless communication device found by said search unit;

a second display unit adapted to selectably display the device identification information of a wireless communication device stored in said storage unit in response to said instruction unit instructing the history search mode; and

a wireless communication establishment process unit adapted to, when device identification information displayed by one of said first and second display units is selected, execute a wireless communication establishment process with the wireless communication device specified by the selected device identification information.

11. (previously presented) A wireless communication system comprising first and second wireless communication devices, wherein

said first wireless communication device comprises:

a discrimination unit adapted to discriminate a type of device capable of executing a processing function designated by an operator;

a determination unit adapted to, when receiving a beacon transmitted from a device on a wireless network, determine whether device identification information corresponding to the type discriminated by said discrimination unit is included in the received beacon; and

a display unit adapted to, selectably display information associated with the device that transmitted the beacon, in accordance with a determination result determined by said determination unit, and

said second wireless communication device comprises:

an informing unit adapted to include device identification information indicating a function into a beacon and transmitting the beacon to the wireless network, and

when information of said second wireless communication device among information displayed by said display unit is selected, a process for establishing a communication between said first and second wireless communication devices is executed.

12. (previously presented) A wireless communication device comprising:

a discrimination unit adapted to discriminate a type of device capable of executing a processing function designated by an operator;

a determination unit adapted to, when receiving a beacon transmitted from a device on a wireless network, determine whether device identification information corresponding to the type discriminated by said discrimination unit is included in the received beacon; and

a display unit adapted to selectably display information associated with the device that transmitted the beacon, in accordance with a determination result determined by said determination unit.

13. (previously presented) A method performed by a wireless communication device, the method comprising:

a detection step of detecting a plurality of beacons at a plurality of frequencies;

a connection step of connecting to a network identified by network identification information included in a beacon detected in said detection step so as to search for a wireless communication device having a predetermined data processing function specified by an operator;

a transmission step of transmitting a search request signal, to search for the wireless communication device having the predetermined data processing function specified by the operator, to a wireless communication device on the network connected to in said connection step;

a determination step of determining whether the wireless communication device on the network connected to in said connection step has the predetermined data processing function based on a response signal that the wireless communication device on the network connected to in said connection step has transmitted in response to the search request signal transmitted in said transmission step;

a display step of selectably displaying information associated with the wireless communication device determined in the determination step to have the predetermined data processing function specified by the operator so as to enable identification of a wireless communication partner; and

a control step of, when the operator selects the information displayed in said display step, while a detection process is being performed in said detection step to detect the beacon, terminating the detection process in said detection step and executing connection processing with a wireless communication device specified by the selected information.

14. (previously presented) A method performed by a wireless communication device, which has a memory for storing device information and network identification

information of a partner wireless communication device that has been connected to previously, which is configured to switch between a history search mode and a new search mode, and which executes a communication process in each mode, wherein, in the history search mode, the wireless communication device communicates with a partner wireless communication device whose device information is stored in the memory, and wherein, in the new search mode, the wireless communication device communicates with a newly searched for partner wireless communication device, the method comprising:

- a determination step of determining an operator's instruction that instructs one of the history search mode and the new search mode;

- a search step of executing, in the new search mode, a beacon detection process, comparing network identification information included in the detected beacon with the network identification information stored in the memory, continuing a detection process of another beacon, if there is a match in the compared network identification information, and searching for a partner wireless communication device to communicate with based on new network identification information, if the new network identification information is detected;

- a first display step of, in the new search mode, selectably displaying device identification information of a wireless communication device found in said search step on a display unit;

- a second display step of selectably displaying the device identification information of a wireless communication device stored in the memory on the display unit, in response to a determination in the determination step that the operator has instructed the history search mode; and

a wireless communication establishment process step of executing, when device identification information displayed in one of the first and second display steps is selected, a wireless communication establishment process with the wireless communication device specified by the selected device identification information.

15. (previously presented) A method performed by a wireless communication device, the method comprising:

a discrimination step of discriminating a type of device capable of executing a processing function designated by an operator;

a determination step of, when receiving a beacon transmitted by a device on a network, determining whether device identification information corresponding to the type discriminated in said discrimination step is included in the received beacon; and

a display step of selectably displaying information associated with the device that transmitted the beacon, in accordance with a determination result determined in said determination step.

16. (previously presented) The device according to claim 2, wherein said predetermined data processing function includes at least one of a data printing function and a data saving function.